

# centennial challenges

## Innovation from Diverse Communities vs. Domain Focus Communities

				
<b>DURATION</b>	- Years	- Months	- Months	- Days/Weeks
<b>PRIZES</b>	- Multimillion \$	- \$1K to \$100K	- Recognition	- Recognition
<b>PRODUCTS</b>	- Technology Demos	- Ideas, Design, Software	- Scientific Observations	- Software Apps
<b>PARTICIPATION</b>	- Mainly USA	- Worldwide	- Worldwide	- Worldwide
 <b>NASA Solve: <a href="https://nasa.gov/solve">nasa.gov/solve</a></b>				

**Centennial Challenges Program is part of NASA's Challenges, Prizes and Competitions Community: "NASA Solve"**

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**Invites the Nation  
to be part of the  
*Journey to Mars***

- Maximize return on investment by:
  - Partnering
  - Paying only for success
- Provide opportunities for technology transfer



- Seeks innovation from diverse non-traditional sources
- Pushes the boundary of human potential

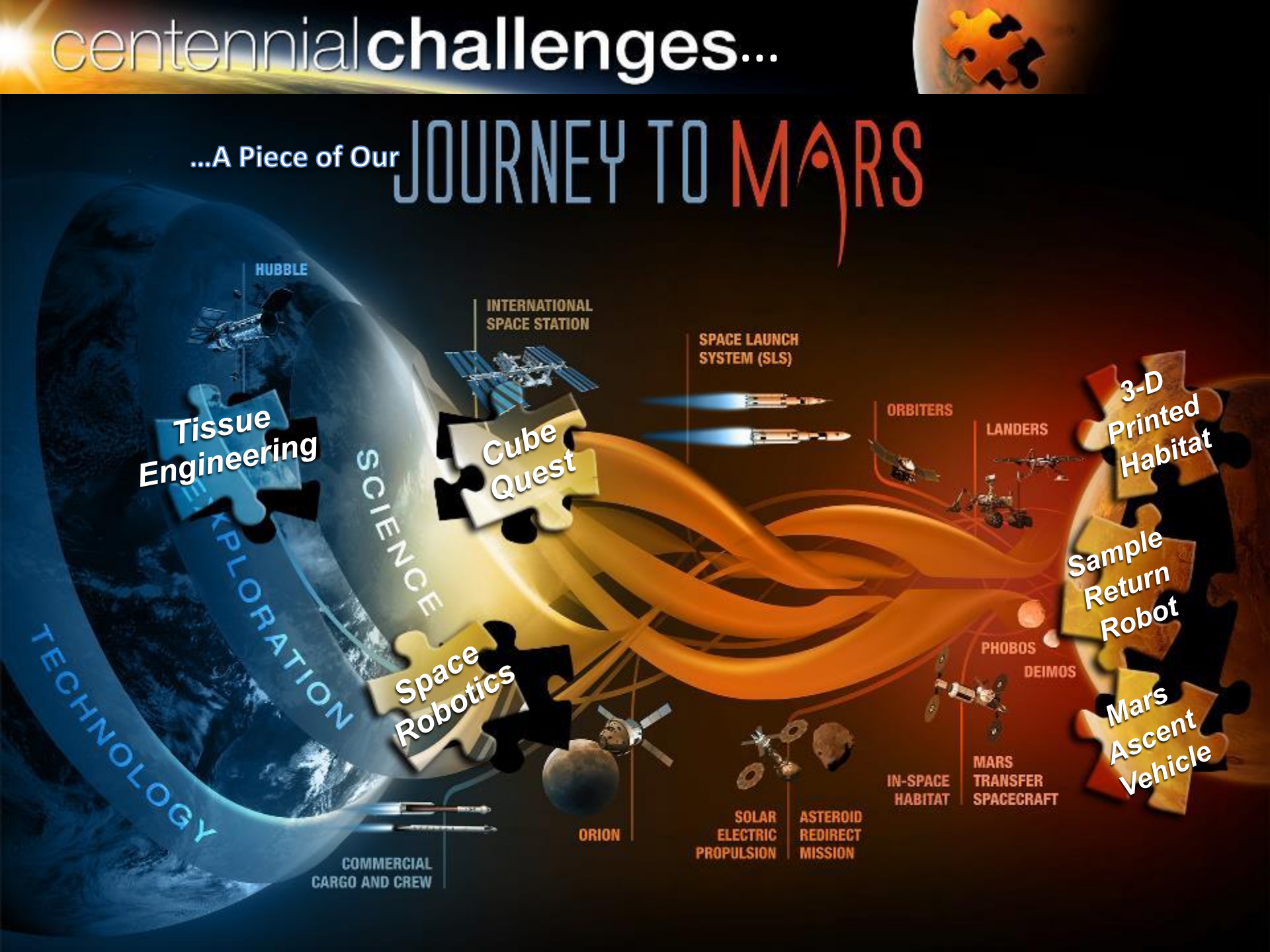
- Gets significant media attention
- Captures public imagination
- Engages people and communities

**Provides innovative solutions for NASA and the Nation**

# centennial challenges...

...A Piece of Our

## JOURNEY TO MARS









## Active Centennial Challenges Competitions



### **Mars Ascent Vehicle (MAV) Challenge/Competitions: 4/2015 and 4/2016**

Demonstrate ability to autonomously recover, load, and launch a "Mars sample"

**Allied Organization:** None

**Challenge Manager:** NASA/Marshall Space Flight Center (MSFC)

- FY15 competition: 15 teams; FY16 registration: 20 teams

**\$0.05M  
Prize Purse**

\$40K awarded  
in FY15



### **Sample Return Robot Challenge (SRR)/Competitions: 6/2015; 6/2016, 9/2016**

Demonstrate rovers that locate/retrieve without human control or terrestrial navigation aids

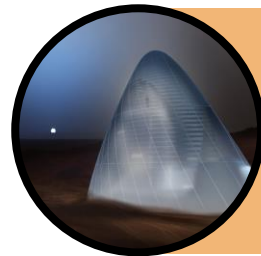
**Allied Organization:** Worcester Polytechnic Institute (WPI)

**Challenge Manager:** NASA/MSFC

- FY15 competition: 14 teams L1 and 2 teams L2; FY16 registration 25 teams

**\$1.50M  
Prize Purse**

\$100K awarded  
in FY15



### **3D Printed Habitat Challenge/Competitions: 7/2015; next levels TBD**

Advance additive construction technology to create sustainable housing on Earth and beyond

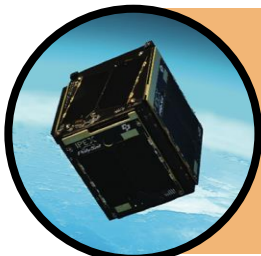
**Allied Organization:** America Makes

**Challenge Manager:** NASA/MSFC

- FY15 Design competition: 167 entries; 94 met requirements; FY16 on hold

**\$2.25M  
Prize Purse**

\$40K awarded  
in FY15



### **Cube Quest Challenge/Competitions: 8/2015, 2/2016, 8/2016 and 2/2017**

Demonstrate communication/propulsion technologies relevant to trans-lunar space exploration

**Allied Organization:** None

**Challenge Manager:** NASA/Ames Research Center (ARC)

- FY15 GT1 competition: 13 team; FY16 GT2 registration: 10 teams

**\$5.00M  
Prize Purse**

\$100K awarded  
in FY15